

In the Claims:

Cancel claims 2-4, 6-8, 10, 11, 13-28, 30, 32-39, 44, 45, 47, 49 and 51

without estoppel or disclaimer of the subject matter thereof;

Amend claims 1, 5, 9, 12, 29, 31, 40, 41, 43, 46, 48, 50 and 52 as follows:

1. (Currently Amended) A flexible ablation system for ablation of biological tissue at a target tissue site, comprising:

~~a handle portion;~~

~~a tubular member having a proximal handle portion and a flexible and distal portions and~~portion that is spaced from the proximal handle portion along a longitudinal axis which, at a point just proximal to the distal portion, defines an approach angle with respect to a surface of the target tissue, the handle portion operably attached to the proximal portion of the tubular member; and that is selectively shapable into a curvilinear configuration lying within a plane and forming a convex surface on a periphery of the curvilinear configuration;

at least one ablation element operably disposed at the distal portion of the tubular member, ~~the at least one ablation element adapted to emit ablative energy substantially entirely through; and the peripheral convex surface; and~~

~~a means for deflecting the distal portion of the tubular member,~~

wherein a tensioning member disposed in the handle portion and
communicating with the distal portion of the tubular member is configured to be
deflected for deflecting the distal portion to a predetermined shape wherefrom
from which a desired energy pattern of ablative energy is emitted, whereby at
least a portion of the target tissue is ablated which is substantially independent of
the approach angle from the peripheral convex surface.

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Currently Amended) The system of claim 4, wherein the means for
directionally controlling the ablative energy comprises 1 comprising a shield
device disposed in the distal portion and adapted to be opaque to at least a portion
of the ablative energy emitted, whereby for reflecting the ablative energy through
the peripheral convex surface and for shielding a portion of biological tissue
adjacent to the distal portion of the ablation system is shielded from the ablation
energy not oriented near the peripheral convex surface.

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Currently Amended) The system of claim 8, wherein 5 in which the shield member device is substantially convex with respect to the longitudinal axis of the ablation system, peripheral convex surface for reflecting therethrough the ablative energy being longitudinally dispersed across toward a target tissue site.

10. (Cancelled)

11. (Cancelled)

12. (Currently Amended) The system of claim 14, wherein the at least one ablation element is an antenna adapted to emit electromagnetic energy.

13. (Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (Cancelled)

21. (Cancelled)

22. (Cancelled)

23. (Cancelled)

24. (Cancelled)

25. (Cancelled)

26. (Cancelled)

27. (Cancelled)

28. (Cancelled)

29. (Currently Amended) A method of ablating tissue, ~~comprising the steps of:~~

~~providing with an ablation system comprising apparatus including a~~
~~tubular member having a longitudinal axis and a deflectable distal portion, the~~
~~distal portion comprising having at least one ablation element from which for~~
~~emitting ablative energy is emitted, the distal portion and being configured to be~~
~~deflected to a predetermined shape wherefrom a relatively uniform energy pattern~~
~~is emitted, the longitudinal axis of the tubular member immediately proximal to~~
~~the distal portion and a surface of the target tissue surface defining an approach~~
~~angle; having a convex surface through which the ablative energy is emitted, the~~
~~method comprising the steps for:~~

advancing the distal portion of the ablation system into a patient's body
until the distal portion is near a target tissue site;

deflecting the distal portion of the ablation ~~catheter, the distal portion~~
~~assuming apparatus to~~ the predetermined shape ~~including the convex surface;~~

advancing the distal portion of the ablation ~~catheter until the distal~~
~~portion is proximate apparatus to substantially tangentially contact the convex~~
~~surface to the target tissue; and~~

applying ablative energy to the at least one ablation element to emit
ablative energy through the convex surface to ablate the target tissue proximate
the convex surface of the distal portion of the ablation catheter,
~~whereby the step of ablating the target tissue is performed substantially~~
~~independent of the approach angle.~~

30. (Cancelled)

31. Currently Amended) The method of claim 29, ~~wherein in which~~ the
ablation ~~catheter~~ apparatus further comprises a steering ~~means~~ member operably
attached to the ~~ablation catheter proximal to the~~ distal portion thereof and the
method further comprises the step of:

~~operating the steering ~~means~~ member to curvilinearly shape such that~~
~~the distal portion of the ablation ~~catheter~~ is moved ~~apparatus~~ from a ~~first~~ position~~
~~to a ~~second~~ position substantially linear shape during insertion into the patient's~~
~~body.~~

32. (Cancelled)

33. (Cancelled)

34. (Cancelled)

35. (Cancelled)

36. (Cancelled)

37. (Cancelled)

38. (Cancelled)

39. (Cancelled)

40. (Currently Amended) An ablation system for ablating tissue, the system a hollow body organ, comprising:

an elongated tubular member having a means member supported thereby for deflecting a flexible distal portion thereof to a curvilinear shape lying within a plane and including a convex surface of the curvilinear shape oriented to substantially tangentially contact a, the longitudinal axis of the tubular member immediately proximal to the distal portion and the surface of a target tissue defining an approach angle therebetween; and

an ablation device operably disposed at the distal portion of the elongated tubular member and including at least one ablation element adapted to

emit ablative energy therefrom substantially in a direction aligned with said plane and passing through the convex surface,

~~wherein operation of the deflection means results in the creation of a uniform energy pattern about the distal portion of the tubular member, whereby ablation of to ablate a portion of the target tissue occurs independent of the approach angle in substantially tangential contact with the convex surface.~~

41. (Currently Amended) The system of claim 40 wherein ~~deflection means~~ the member comprises at least one pull wire having a distal end fixedly attached to the distal portion.

42. (Original) The system of claim 41, wherein the at least a portion of the at least one pull wire is operably located external and adjacent to the distal portion.

43. (Currently Amended) The system of claim 40, wherein the at least one ablation element is an antenna adapted to emit electromagnetic energy therefrom in the direction aligned with the plane and passing through the convex surface.

44. (Cancelled)

45. (Cancelled)

46. (Currently Amended) ~~A flexible~~ ~~An~~ ablation system, comprising:

~~a tubular member having a proximal and distal portions and portion and~~

~~a flexible distal portion spaced along a longitudinal axis which, at a point just~~

~~proximal to the distal portion, defines an approach angle with respect to a surface~~

~~of the target tissue; and from the proximal portion;~~

~~at least one ablation element operably disposed at the distal portion of~~

~~the tubular member, the at least one ablation element adapted to emit ablative~~

~~energy; and substantially in a selected direction about the longitudinal axis;~~

~~a means-tensioning member extending between the proximal and distal~~

~~portions for shaping the distal portion of the tubular member to a curvilinear~~

~~shape including a convex surface oriented along the selected direction for~~

~~emitting ablative energy therethrough, wherein in a desired energy pattern is~~

~~emitted from the shaped distal portion, the energy pattern engaging toward a~~

~~target tissue independent of the approach angle, substantially tangentially~~

~~contacted by the convex surface of the shaped distal portion.~~

47. (Cancelled)

48. (Currently Amended) An ablation system for ablating biological tissue, comprising:

an elongated tubular member having a proximal handle portion and a deflectable distal portion and a longitudinal axis spaced along an elongated axis of the tubular member from the handle portion;

at least one ablation element operably disposed at the distal portion of the tubular member and adapted to emit ablative energy in a substantially unidirectional in a single direction along the longitudinal at a selected angular orientation about the elongated axis of the tubular member; and

a means-tensioning member disposed within the tubular member between the proximal handle portion and the distal portion for deflecting at least the distal portion of the tubular member to a configuration including a convex surface oriented for emitting ablative energy therethrough in substantially, wherein upon deflection of the distal portion of the tubular member, a relatively uniform energy distribution is formed about the deflected through the convex surface of the deflected distal portion, whereby ablation of for ablating biological tissue proximate to the convex surface of the deflected distal portion occurs substantially independent of an approach angle defined by the longitudinal axis of the tubular member immediately proximate the deflected distal portion and the biological tissue surface of tissue to be ablated.

49. (Cancelled)

50. (Currently Amended) The system of claim 48 in which 49, wherein the convex surface of the deflected distal portion forms substantially tangential contact with biological tissue is concave to be ablated.

51. (Cancelled)

52. (Currently Amended) The system of claim 49, wherein 48 in which the convex surface of the deflected distal portion tangentially contacts the biological tissue is of concave shape at the isthmus between the inferior vena cava and the tricuspid valve.